



## MIGIZI GROUP, INC.

3227 – 178<sup>th</sup> Street SE    PHONE    (206) 390-6535  
Bothell, WA 98012    FAX    (425) 402-9737

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March 20, 2014

SMR Architects  
911 Western Avenue, Suite 200  
Seattle, Washington 98104

Attn:            Douglas Ito, AIA, Principal

**Subject:        Reuse Regulated Material Planning**  
Former Federal Reserve Bank of San Francisco Building  
1015 Second Avenue  
Seattle, Washington 98104

MGI Project No.: P237-14

Mr. Ito:

The information contained herein documents a regulated materials investigation and abatement cost estimate conducted by Migizi Group, Inc. (MGI) at the above referenced location.

### INTRODUCTION

MGI understands that a team lead by SMR Architects is investigating the feasibility of occupying the former Federal Reserve Bank in Seattle, Washington. The feasibility study partially includes the development of conceptual tenant improvements plans and construction cost estimates. Asbestos surveys commissioned by the Federal Reserve Bank of San Francisco<sup>1</sup> and the General Services Administration (GSA)<sup>2</sup> document asbestos-containing building materials and suspected asbestos contamination within the building. Additional surface testing conducted by the GSA on June 5, 2012 suggests potential lead (Pb) dust contamination within parts of the building. MGI further understands that the current conceptual tenant improvement plan may impact mechanical, electrical, plumbing and finish materials throughout Level 1 through Level 4.

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<sup>1</sup>Environmental Control Sciences, Inc., *A Survey and Assessment of Asbestos and Hazardous Materials and Risk Assessment*, 1993.

<sup>2</sup>RGA Environmental, Inc., *Asbestos Survey Report*, August 6, 2012.

## SCOPE OF WORK

MGI's scope of work included reviewing existing survey reports and abatement cost estimates as well as field validation of selected building materials. These asbestos-containing building materials specifically included the following:

- Fire Proofing (\$508,500)
- Cove Base Mastic (\$15,000)
- Vinyl Floor Tile (\$52,450)
- Ceramic Floor and Wall Tile (\$89,075)
- Pipe Insulation (\$116,500)
- Cement Asbestos Board (\$6,900)
- Roofing Material (\$72,000)

MGI's investigation also included asbestos contamination of the overhead grid on the Ground Floor above the Security Office/Cash Area (\$180,000) and the report of lead-containing dust contamination. The abatement cost estimates listed above were provided in the 2012 report.

The field validation included a site inspection conducted by MGI representatives Mr. Doug Henry and Mr. Jason Souza on March 7, 2014. Mr. Henry and Mr. Souza are certified Asbestos Hazard Emergency Response Act (AHERA) Building Inspectors (certifications attached). The drawings attached to this letter report identify the location and quantity of asbestos-containing vinyl floor tile and assumed asbestos-containing ceramic floor and wall tile. The drawings also identify the locations of samples collected by MGI during the March 7 investigation.

Asbestos bulk samples collected by MGI and described herein were delivered to Seattle Asbestos Test, LLC (SAT) in Lynnwood, Washington and analyzed using PLM/dispersion staining techniques, in accordance with EPA Method 600/R-93/116. Laboratory analytical data reports, chain-of-custody forms and SAT's National Institute of Standards and Technology (NIST) National Voluntary Laboratory Accreditation Program (NVLAP) certification are attached to this letter report.

## FIREPROOFING

There appears to be two types of fireproofing applied within the building. The first type (60%-70% Amosite asbestos) was identified in the 1993 report as being present above the pistol range on the Ground Floor and attributes the 1986 partial removal of this material as being causative of the contamination on the overhead grid in the Security Office/Cash Area. The 2012 report confirms the removal of this material/type from above the pistol range. The 1993 report does not identify this "Amosite" fireproofing elsewhere within the building but the 2012 report assumes (with no sampling) that this material is present on Level 1, Level 2 and the Mezzanine Level. MGI did not observe this material during the March 7 site visit but it may be present in concealed areas.

The second type of fireproofing is a cementitious material, tan in color, and applied to wire lath attached to pan decking above the Ground Floor through Level 3. This material also appears to be present beneath the scratch/brown/skim coats of plaster walls. Two samples of this material appear to have been collected and analyzed from the Ground Floor in 1993 and three samples were collected in 2010 from Level 3. All five samples were determined to be non-detectable for asbestos. However, the 2010 sample locations suggest that the three samples collected were intended to characterize fireproofing potentially installed during the 1996 Seismic Retrofit and Third Floor Renovations project. MGI collected four samples of this material on the Ground Floor, Level 1, Level 2 and Level 3. All four samples were determined to be 2% Chrysotile asbestos.

The fireproofing sampled by MGI and currently present on the Ground Floor, Level 1, Level 2 and Level 3 is not Amosite fireproofing but current analytical data identifies this material as an “asbestos-containing material” (greater than 1%). The attached Table 3 provides a demolition/abatement budget estimate assuming this material is also located beneath plaster walls and abatement is conducted concurrent with general demolition by a certified asbestos abatement contractor.

It is recommended that additional sampling of the fireproofing and plaster walls be conducted that is consistent with (AHERA) sampling requirements (40 CFR 763.86) for surfacing materials:

- In a distributive manner, a minimum of three samples collected from each homogenous area 1,000 square feet or less.
- A minimum of five samples collected from each homogenous area greater than 1,000 square feet but less than or equal to 5,000 square feet.
- A minimum of seven samples collected from each homogenous area greater than 5,000 square feet.

Should fireproofing in each homogenous area continue to be reported as containing trace to 3% asbestos, it is recommended that the samples be analyzed by EPA Method 600/R-93/116 *Point-Count Quantification*. Point-counting is considered to be a less-biased and statistically more precise and accurate method of quantification for samples with low concentrations of asbestos. However, even if point counting determines that the asbestos content is less than 1%, basic asbestos work practices and training requirements still apply for work that impacts material containing asbestos. These basic requirements include the following:

- Engineering controls and work practices given in WAC 296-62-07712(2).
- Two-hour awareness training consistent with the course developed by the EPA.
- A competent person must be assigned to the project and trained according to WAC 296-62-07728(5)(b)(ii).

## **COVE BASE MASTIC**

The 2010 report documents that one sample of brown mastic associated with two inch vinyl cove base was determined to contain Tremolite asbestos at less than 1%. The sample was collected on the Level 2 and listed to be present on Level 1 and Level 2. Based on the sample location drawing in the 2010 report and MGI's March 7 site visit, the material appears to have been applied to the sheet metal radiator housing during installation of a wall base material no longer present.

The material was reported to be less than one percent asbestos and is not an "asbestos-containing material" by regulatory definition. No specialized training or handling procedures are required to remove or dispose of this material other than the "basic requirements" noted in the Fireproofing section of this letter report. Other than metal recyclers potentially rejecting this material, the presence of this material does add a notable regulated material cost to demolition.

## **VINYL FLOOR TILE**

The 1993 report documents that 12 samples of vinyl floor tile and associated mastic were collected from all six floors. Of those 12 samples, only one sample of tile and mastic collected on Level 1 was non asbestos-containing. Based on the 1993 report, all original vinyl floor tile (typically 9"x9") and associated mastic should be considered asbestos-containing unless confirmed otherwise through sampling and laboratory analysis. Based on sampling documented in the 2010 report, sampling conducted by MGI during the March 7 site visit, and MGI's March 7 field observations, the remaining asbestos-containing vinyl floor tile appears to be limited to Level 1, Level 2 and the central stair landing on the Mezzanine Level. Samples collected by MGI confirmed that vinyl floor tile and associated mastic located in the Basement and Ground Floor vaults and the Level 1 file storage (northeast corner) are non asbestos-containing. The attached drawings show the location and quantity of asbestos-containing vinyl floor tile and MGI sample locations. Table 3 provides a budget estimate for removal and disposal of asbestos-containing vinyl floor tile and mastic assuming overlying carpet has been removed prior to abatement.

## **CERAMIC FLOOR AND WALL TILE**

The 2010 report assumed that ceramic wall and floor tile and the associated grout and mortar were asbestos-containing. Although these materials will need to be tested prior to disturbance for confirmation purposes, ceramic tile, grout and thinset mortar typically do not contain regulated concentrations of asbestos. On rare occasion, mastic/adhesive used to install ceramic tile (typically wall tile) may contain low concentration of asbestos. If the fireproofing previously discussed is confirmed to be asbestos-containing, overspray may be present beneath ceramic tile. The demolition/abatement budget estimate provided in Table 3 would cover this contingency.

Lead (Pb) may also be present in the ceramic tile glazing. If detectible concentrations of lead are present, removal of the ceramic tile would be governed by Washington Administrative Code (WAC) 296-155-176 (Lead [in construction]). Disposal of the material would be regulated by WAC 173-303 (Dangerous Waste Regulations). According to WAC 173-303-090, a solid waste which exceeds five milligrams per liter (mg/l) as determined by the Toxicity Characteristic Leachate Procedure (TCLP) for lead (Pb) would be designated a dangerous waste for the purpose of disposal.

Due to the current asbestos-containing assumption, the attached drawings show the location and quantity of ceramic floor and wall tile. This material should be tested to confirm occupational hazards and waste designation, but past experience suggests that ceramic tile, mortar and grout were not manufactured with an asbestos component and the leachability of lead in ceramic tile is typically too low to result in a Dangerous Waste designation. As such, MGI does not anticipate that regulatory requirements associated with the removal and disposal of ceramic tile will significantly add to the cost of demolition and handling of this material has not been itemized in Table 3 but is incidentally accounted for in the demolition/abatement budget estimate.

## **PIPE INSULATION**

The 1993 report confirmed that asbestos-containing calcite or magnesia mudded fittings and aircell lagging was installed in the building. Observations conducted by MGI during the March 7 site visit suggest that calcite or magnesia preformed hard lagging may also be present. Also based on MGI's March 7 observations and on photographs within the 1993 report, aircell and/or hard lagging and mudded fittings appear to be associated with the radiate heat and plumbing systems while the pipes above the drop ceilings serving the 1964 installation of the air-conditioning system appear to be insulated with fiberglass lagging and mudded fittings.

Based on the 1993 report, plans associated with the 1996 Siesmic Retrofit and Third Floor Renovations project, and MGI's March 7 observations, asbestos-containing insulation appears to have been completely removed from the Basement, Ground Floor, Level 3 and Level 4 and from the north and south ends of Level 1 and Level 2. However, MGI observed abandoned suspect asbestos-containing pipe insulation within a mechanical room on Level 3 which suggests that isolated and concealed asbestos-containing pipe insulation could be encountered anywhere in the building during demolition.

In an effort to validate quantities of asbestos-containing pipe insulation provided in the 1993 report and essentially reported verbatim, with rounding, in the 2010 report, MGI measured the horizontal linear feet of piping associated with the radiate heat and plumbing systems as shown on a 1949 Level 2 mechanical plan to be approximately 1,700 linear feet. Comparing this to the 1993 report (3,006 linear feet) draws some question into how the 1993 report quantified pipe lagging and fittings and provides a level of uncertainty with using the quantities within the 1993 report for budget estimating. Do to the large negative delta between the 1993 report and

MGI's plan measurements, MGI used the linear feet of aircell in 1993 report but did not include fittings for the purpose of budgeting estimating presented in Table 3.

## **CEMENT ASBESTOS BOARD**

Cement asbestos board (CAB) was used for various purposes throughout the building with the vast majority used as heat shields between radiant, hot water heaters and adjacent walls (primarily exterior walls). Although the cost to remove and dispose of CAB is relatively minor in comparison to the cost of other confirmed and suspect asbestos-containing materials within the building, MGI included CAB heat shields in this assessment since the material was used throughout the building.

Based on plan associated with the 1996 Siesmic Retrofit and Third Floor Renovations project, radiant wall heaters appear to have been completely removed from Level 3 and the north and south ends of Level 1, Level 2 and Level 4. MGI's March 7 field observations suggest that radiant wall heaters were completely removed from Level 4 sometime after 1996. MGI understands that the 1996 siesmic retrofit project included the application of shotcrete on the north and south exterior walls of Level 1, Level 2, Level 3 and Level 4. As such, it is likely that CAB heat shields were removed from these areas. Neither available information (reports/plans) nor field observations could confirm that the removal of radiant heaters included the removal of CAB heat shields.

In an effort to validate quantities of CAB heat shields provided in the 1993 report and reported verbatim in the 2010 report, MGI counted radiant heaters as shown on a 1949 mechanical plan of Level 1 and Level 2 to be 29 and 27 each respectively. Comparing this to the 1993 report for Level 1 and Level 2 (46 and 23 each respectively), draws some question into how the 1993 report quantified CAB heat shields and provides a level of uncertainty with using the quantities within the 1993 report for budget estimating. However, since the cost delta is relatively minor in comparison to other suspect and confirmed asbestos-containing materials, MGI assumed that CAB heat shields were completely removed from the Basement, Level 3 and Level 4 and used the quantities provided in the 1993 report for the Ground Floor, Level 1 and Level 2 for the purpose of budgeting estimating presented in Table 3. It is recommended that the fate of CAB heat shields be confirmed prior to demolition.

## **ROOFING MATERIAL**

The 1993 report documents that one sample of roofing was collected and analyzed and determined to be 10% Chrysotile asbestos. The location of the roofing sample was not specified. No layered analysis or other indication of what portion(s) of the roofing system contained asbestos was provided. Based on this one sample, the main roof, the Level 2 roof and the Level 1 canopy roof was identified as asbestos-containing in both the 1993 and 2010 reports. The quantity of asbestos-containing roofing listed in the 1993 report and restated verbatim in the 2010 report (18,000 square feet) is generally consistent (+/- 1,000 square feet) with the quantity calculated by MGI from scaled drawings provided by SMR Architects.

MGI recommends that additional sampling be conducted prior to work that impacts the roofing system to verify asbestos content and, more importantly, determine what portion(s) of the roofing system contain asbestos as abatement cost varies with material (e.g., felts) and location (e.g., on decking). Since MGI understands the proposed tenant improvement project is not projected to impact roofing, the cost of roofing abatement was not itemized on Table 3.

## AMOSITE CONTAMINATION

The 1993 report identifies asbestos contamination on the overhead grid and within the east wall of the Cash Area and overhead within the guard area and pistol range. The 1993 report identifies the contamination as 60%-70% Amosite, 5%-10% Chrysotile and 2%-5% Crocidolite asbestos and estimates the quantity of this contamination to be 13,000 square feet. The 2010 report slightly modifies the description to “amosite contamination on overhead grid - Ground Floor above the Security Office/Cash Area” and reports the quantity as 12,000 square feet. According to the 1993 report, the source of the contamination is from the “removal of sprayed on amosite in the overhead of the east side of the Ground Floor in March 1986”. MGI inspected the spaces listed in Table 1 and noted ‘dusty’ conditions but did not visually confirm the presence of particulate suggestive of gross amosite contamination.

To investigate the report of contamination and to quantify asbestos in settled dust within the Ground Floor Security Office/Cash Area, MGI utilized a microvac sampling technique in accordance with the sampling procedure specified in ASTM International<sup>3</sup> method D5755-09<sup>4</sup>. Briefly, the sample procedure involved vacuuming a known surface area with a standard 25 millimeter (mm)<sup>5</sup> cassette using a vinyl tube that is attached to the inlet orifice which acts as a nozzle. The samples were collected at two liters per minute for at least two minutes while conducting two orthogonal passes over the sample surface. The samples were collected from the ceiling cavity side of suspended ceiling tile in the areas listed in Table 1 below. The attached drawing shows the approximate sample locations.

Samples and chain-of-custody submittal sheets were delivered to Lab/Cor, Inc. (Lab/Cor) in Seattle, Washington for analysis. Lab/Cor participates in the NIST NVLAP for Airborne Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM). Lab/Cor analyzed the samples in accordance with ASTM D5755-03. Laboratory analytical data reports, chain-of-custody forms, and the laboratory certification are attached.

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<sup>3</sup>Formerly known as the American Society for Testing and Materials (ASTM)

<sup>4</sup>Standard Test Method for Microvacuum Sampling and Indirect Analysis of Dust by Transmission Electron Microscope for Asbestos Structure Number Surface Loading.

<sup>5</sup>Mixed cellulose ester (MCE) membrane filter with a 0.8 micrometer (µm) pore size.

The laboratory analytical results from the microvac sampling are tabulated below:

<b>Table 1</b> <b>Microvac (surface dust) Samples</b>			
Sample No.	Location	Result (s/cm <sup>2</sup> )	Notes
23714-MV-1	Ground Floor – Cash Area West	<3,676	Higher detection limit due to non asbestos-containing dust.
23714-MV-2	Ground Floor – Cash Area East	<3,676	
23714-MV-3	Ground Floor – Guard Post	Not Analyzed	
23714-MV-4	Ground Floor – Security/Control Area	<368	
s/cm <sup>2</sup> – asbestos structures per square centimeter < - denotes less than the laboratory detection limit			

The TEM microvac method is good for determining the presence/absence of surface contamination, but interpreting the quantitative result with regards to health-based risk is difficult. Besides the numerical result, other factors must be considered, such as potential for disturbance of the dust and intended use of the area. Airborne inhalation of fibers is the human exposure pathway and surface concentration does not directly correlate with airborne exposure. It is possible that a room could have a high concentration of settled asbestos dust, but if not agitated never cause an exposure. Conversely, a tightly sealed room with a low concentration of asbestos dust which is swept with a broom and has a fan blowing could cause an exposure above an acceptable level. As such, surface concentrations of asbestos do not directly correlate with exposure which is the matrix upon which risk assessment is based. Evaluation of surface concentrations at best evaluates the potential for exposure. That being said, the following technical commentary<sup>6</sup> does a good job of discussing the caveats of data interpretation for the method:

“Typical asbestos concentration values in surface dust as determined using the microvac technique were published for a variety of sites containing ACM. A wide range was evident, from 6.5 s/cm<sup>2</sup> to over 4.3 million s/cm<sup>2</sup>, averaging near 1,000 s/cm<sup>2</sup>... Although limited, some settled dust data exist for samples taken from buildings which were constructed without ACMs. Microvac dust samples from three government buildings [in the state of Maryland] which did not have ACMs...showed levels of asbestos fibers less than 200 s/cm<sup>2</sup>... As might be expected, areas that are normally cleaned on a routine basis are generally lower than areas where dust accumulates undisturbed over a period of time... Microvac samples collected of dust resulting from a breach in containment of an asbestos abatement area into a store which had been cleaned the previous day showed levels of asbestos of about 100,000 s/cm<sup>2</sup>. Levels of asbestos in layers of dust collected by microvac from the tops of ceiling tiles and light fixtures below asbestos-containing fireproofing have in some cases been over 1 billion s/cm<sup>2</sup>.

<sup>6</sup>Hays, S.M. and Millette, J.R., *Settled Asbestos Dust Sampling and Analysis*, CRC Press, June 21, 1994.

Based on the authors' experience, levels of asbestos in settled dust as determined by the microvac technique are considered low if less than 1,000 s/cm<sup>2</sup>. Levels above 10,000 s/cm<sup>2</sup> are generally above background. Levels above 100,000 s/cm<sup>2</sup> are considered high and in the range of a significant accidental release from an abatement site."

It is apparent that there is no single number that can be referenced to delineate when a surface is "clean." However, a concentration of asbestos dust less than 1,000 s/cm<sup>2</sup> is unlikely to result in elevated exposures. At the opposite extreme, a value in excess of 100,000 s/cm<sup>2</sup> should be a cause for concern. Values between these two extremes require the investigator to carefully consider possible exposure scenarios, including re-entrainment mechanisms and the exposed population.

The dust samples collected from the ceiling grid above the Ground Floor Security Office and Cash Areas were reported to be non-detectable for asbestos. Based on the analytical data as reported and discussed above, wide spread amosite contamination does not appear to be present on the ceiling grid above the Ground Floor Security Office and Cash Areas.

## LEAD DUST CONTAMINATION

Surface testing conducted by GSA on June 5, 2012 identified lead (Pb) dust contamination within the Ground Floor of the building. Anecdotal information suggested that the June 5 sampling may indicate contamination of the ventilation system from money destruction (e.g., shredding) operations. Table 2 below summarizes MGI's interpretation of the provided analytical data and sample location drawings associated with the GSA June 5 sampling:

Table 2			
Lead (surface dust) Samples			
Sample No.	Location	Result (µg/ft²)	Notes
FR-01	Ground Floor Pistol Range, Floor Near Shooting Line	130,000	
FR-02	Ground Floor Pistol Range, Floor In Front of Bullet Stop	360,000	
FR-03	Ground Floor Pistol Range, Wall In Front of Bullet Stop	21,000	
FR-04	Basement, Facility Shop, South of Vault (Surface Unknown )	250	Sample locations potentially labeled as “Pneumatic Duct Work”.
FR-04	Basement, Facility Shop, South of Vault (Surface Unknown)	<66	
µg/ft² – micrograms per square foot			
< - denotes less than the laboratory detection limit			

Analytical data associated with the pistol range should be considered 'normal' for such a facility that has not undergone decontamination. Prior to general demolition of the pistol range or use

of the pistol range for anything other than a pistol range, the floor, walls, equipment and furniture should be cleaned to a surface concentration of 40 micrograms per square foot ( $\mu\text{g}/\text{ft}^2$ ) unless an occupant/activity exposure assessment is conducted.

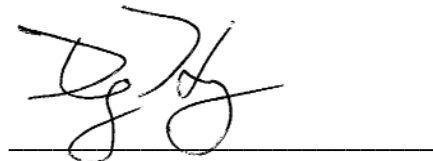
A visual assessment of the “Basement, Facility Shop” sampling area, as shown on the provided sampling location drawing, only identified concrete flooring as a viable sample location. Since the samples appear to have been collected immediately adjacent to one another with varying results, additional sample information must be ascertained from GSA before an accurate assessment can be completed. Assuming the samples were collected on the floor, it is recommended that the floor be cleaned to a surface concentration of 40  $\mu\text{g}/\text{ft}^2$  unless an occupant/activity exposure assessment is conducted.

## CLOSING

The abatement estimates and recommendations contained in this report are based on the observations and data obtained by MGI and described herein, our understanding of background information provided by GSA through Historic Seattle and SMR Architects, the proposed tenant improvement scope provided by RAFN Company, and generally accepted facility management practices. If you have any questions concerning the findings and conclusions contained in this report, please feel free to call the undersigned at your earliest convenience.

Respectfully submitted,

**Migizi Group, Inc.**



Doug Henry, CIH  
Director Environmental Services

Attachments:

- Table 3 – Abatement Budget Estimate
- Material and Sample Location Drawings
  - Figure 1 – Basement
  - Figure 2 – Ground Floor
  - Figure 3 – Level 1
  - Figure 4 – Level 2
  - Figure 5 – Level 3
  - Figure 6 – Level 4
- Laboratory Analytical Data Reports and Chain-of-Custody Forms
- Inspector Certifications
- Laboratory Certifications

**Table 3**  
**Abatement Budget Estimate**

Abatement Activity	Unit Price	Ground Floor	Level 1	Level 2	Level 3	Level 4	Project Total
Floor Area (SQ FT) <sup>1</sup>		18,403	15,693	12,345	12,315	12,258	71,014
Demo-Abatement <sup>2</sup>	\$20.00	\$368,060	\$313,860	\$246,900	\$246,300	NA	\$1,175,120
Demo-Abatement <sup>3</sup>	\$18.50	\$340,456	\$290,321	\$228,383	\$227,828	\$226,773	\$1,313,759
VAT Quantity (SQ FT)		NA	6,510	9,720	NA	NA	16,230
VAT Add	\$2.50	NA	\$16,275	\$24,300	NA	NA	\$40,575
CAB Quantity (SQ FT)		345	690	345	NA	NA	1,380
CAB Add	\$2.50	\$863	\$1,725	\$863	NA	NA	\$3,450
TSI Quantity (LF)		NA	3,700	3,006	NA	NA	6,706
TSI Add <sup>4</sup>	\$2.50	NA	\$9,250	\$7,515	NA	NA	\$16,765
TSI Quantity (LF)		NA	3,700	3,006	NA	NA	6,706
TSI Add <sup>5</sup>	\$10.00	NA	\$37,000	\$30,060	NA	NA	\$67,060
<b>Total<sup>6</sup></b>		<b>\$368,923</b>	<b>\$341,110</b>	<b>\$279,578</b>	<b>\$246,300</b>	<b>\$226,773</b>	<b>\$1,462,683</b>

<sup>1</sup>Ground Floor area adjusted to exclude vehicle bay. Calculated from scaled drawings provided by SMR Architects.

<sup>2</sup>Demolition of MEP and finish materials concurrent with fireproofing abatement.

<sup>3</sup>Demolition of MEP and finish materials by certified asbestos abatement workers. Ceiling fireproofing excluded.

<sup>4</sup>TSI abatement concurrent with "Demo-Abatement".

<sup>5</sup>TSI abatement independent of demolition.

<sup>6</sup>Totaled vertically from italicized cells. Project Total summed horizontally.

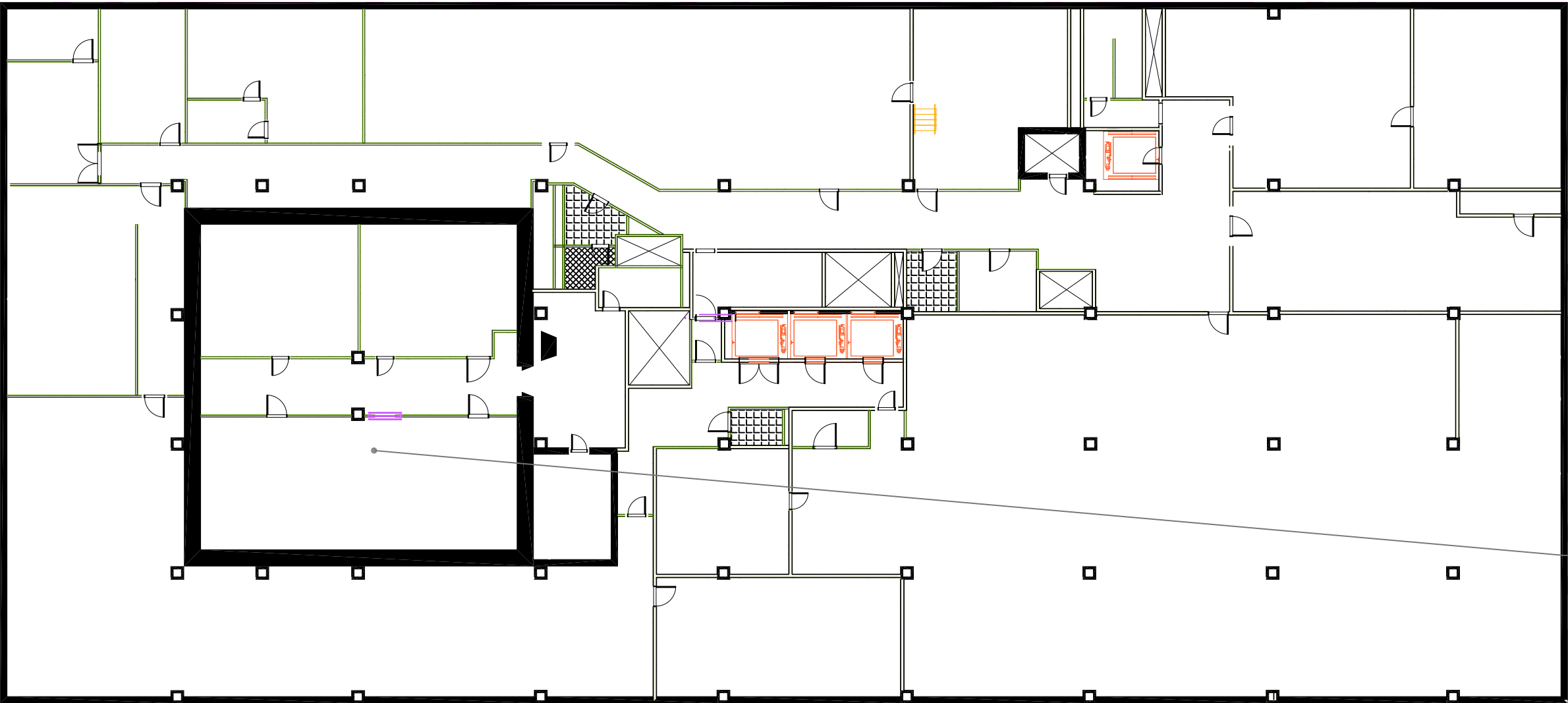
VAT - Vinyl Asbestos Tile

CAB - Cement Asbestos Board



TSI - Thermal System Insulation

SQ FT - Square Foot

LF - Linear Foot



**LEGEND**

-  CERAMIC FLOOR TILE
-  CERAMIC FLOOR AND WALL TILE
- 23714-01-1 ASBESTOS SAMPLE LOCATION

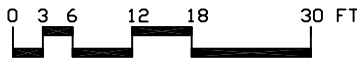
**ESTIMATED SHEET QUANTITY**

- 215 SQ. FT. - CERAMIC FLOOR TILE
- 440 SQ. FT. - CERAMIC WALL TILE

23714-01-1 (vinyl tile/mastic)  
Non-Detectable



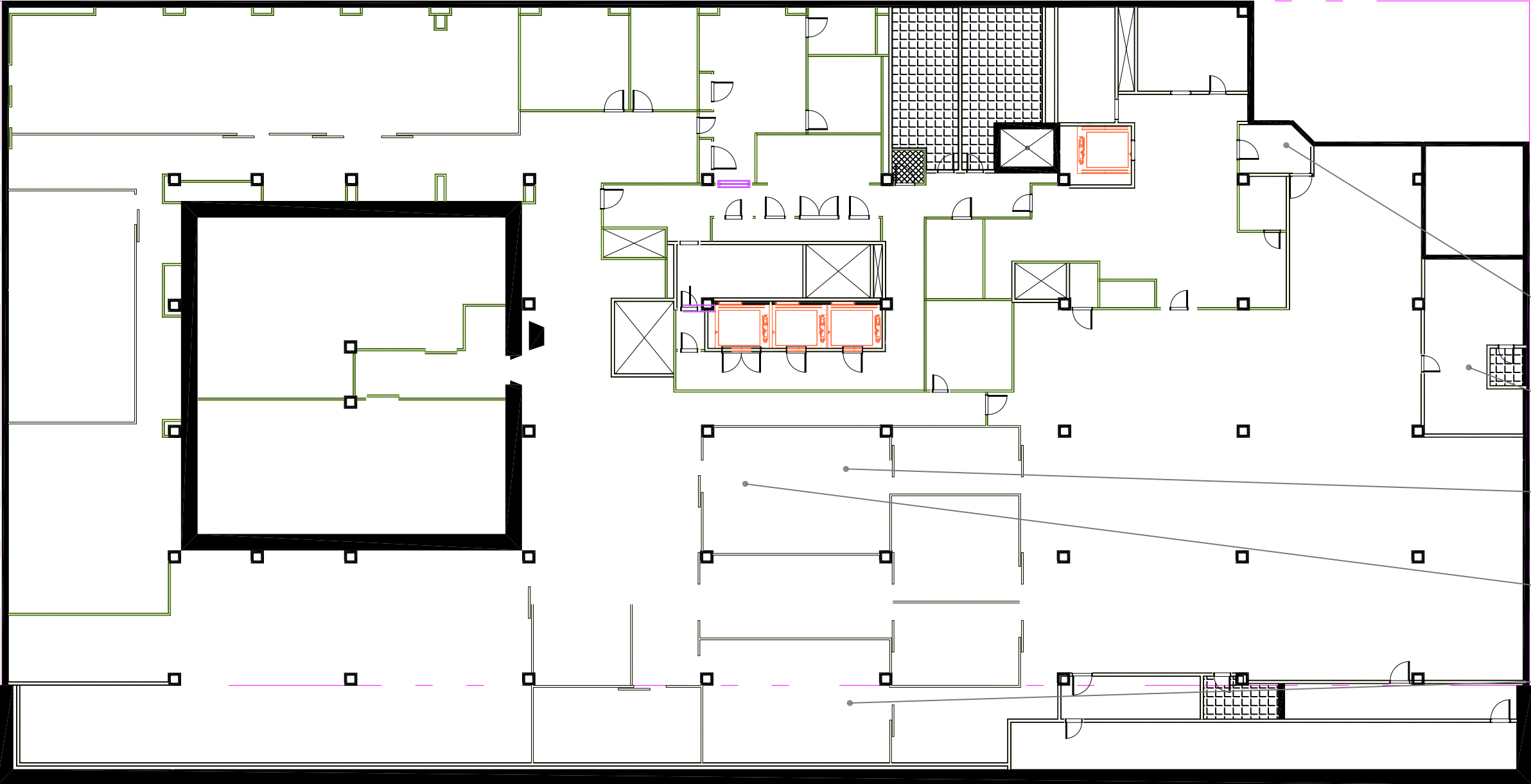
**Former Federal Reserve Bldg. - Basement**





**Migizi Group, Inc.**

17921 Bothell-Everett Hwy., Suite 102  
Bothell, Washington 98012  
(425) 398-2300  
(425) 398-2333 fax  
www.migizigroup.com

PROJECT: Former Federal Reserve Building Reuse Regulated Material Planning	
SHEET TITLE: Suspect Asbestos-Containing Building Materials/Sample Locations	
DESIGNER: DJH	JOB NO. P237-14
DRAWN BY: DJH	SCALE:
CHECKED BY: JDS	FIGURE: 1
DATE: 13MAR2014	FILE: Fig. 1 - Basement



**LEGEND**

-  CERAMIC FLOOR TILE
-  CERAMIC FLOOR AND WALL TILE
- 23714-01-1 ASBESTOS SAMPLE LOCATION
- 23714-MV-1 MICROVAC SAMPLE LOCATION

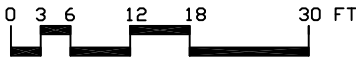
**ESTIMATED SHEET QUANTITY**

- 215 SQ. FT. - CERAMIC FLOOR TILE
- 440 SQ. FT. - CERAMIC WALL TILE

- 23714-MV-3 (not submitted for analysis)
- 23714-MV-4 (pending analysis)
- 23714-05-4 (fire proofing)  
2% Chrysotile Asbestos
- 23714-MV-1 (pending analysis)
- 23714-MV-2 (pending analysis)

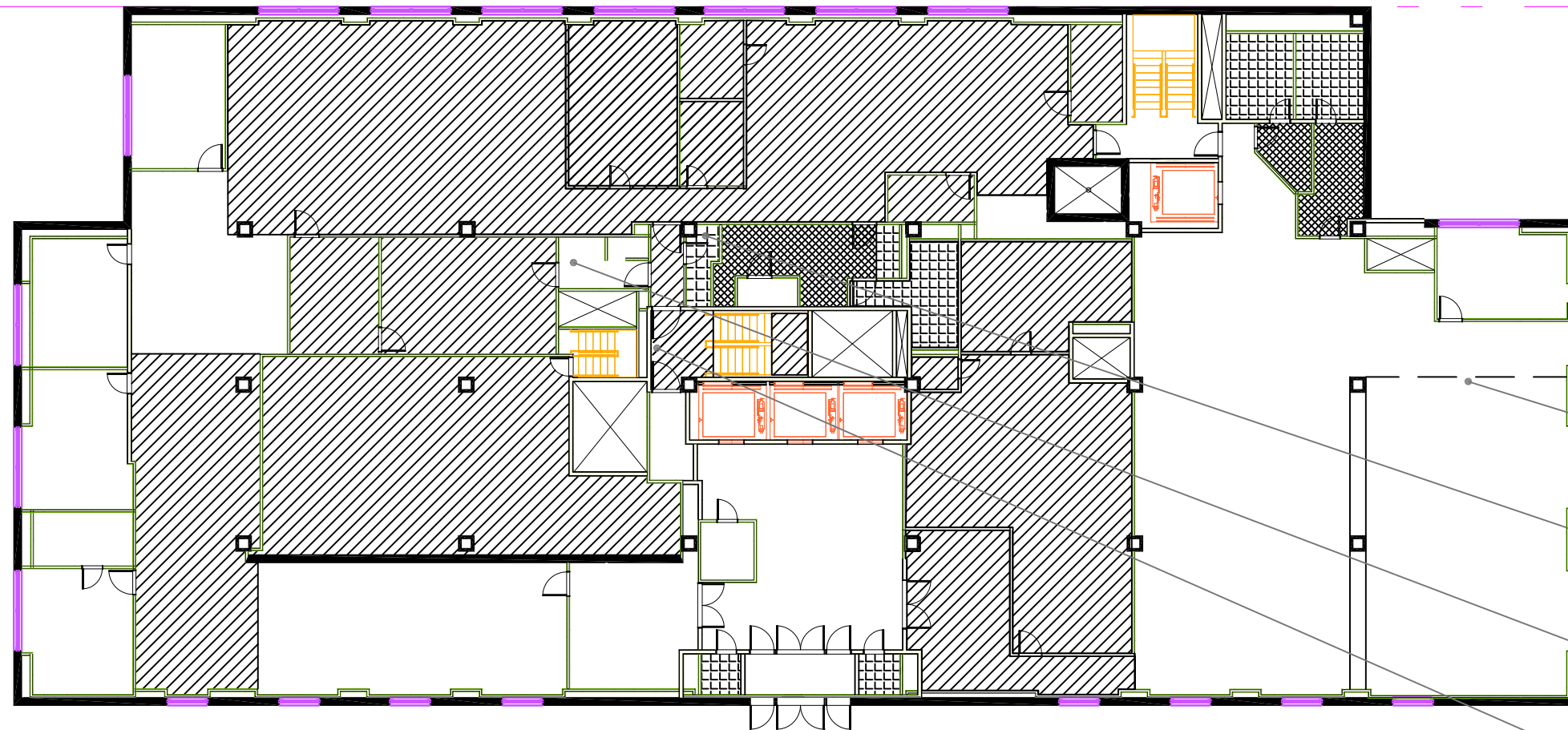


**Former Federal Reserve Bldg. - Ground Floor**







Migizi Group, Inc.  
17921 Bothell-Everett Hwy., Suite 102  
Bothell, Washington 98012  
(425) 398-2300  
(425) 398-2333 fax  
www.migizigroup.com

PROJECT: Former Federal Reserve Building Reuse Regulated Material Planning	
SHEET TITLE: Suspect Asbestos-Containing Building Materials/Sample Locations	
DESIGNER: DJH	JOB NO. P237-14
DRAWN BY: DJH	SCALE:
CHECKED BY: JDS	FIGURE: 2
DATE: 13MAR2014	FILE: Fig. 2 - Grnd. Flr.



**LEGEND**

-  VINYL FLOOR TILE AND MASTIC
-  CERAMIC FLOOR TILE
-  CERAMIC FLOOR AND WALL TILE
-  23714-01-1 ASBESTOS SAMPLE LOCATION

**ESTIMATED SHEET QUANTITY**

- 6,510 SQ. FT. - VINYL FLOOR TILE AND MASTIC
- 680 SQ. FT. - CERAMIC FLOOR TILE
- 1,680 SQ. FT. - CERAMIC WALL TILE

23714-02-1 (vinyl tile/mastic)  
Non-Detectable

23714-05-3 (fire proofing)  
2% Chrysotile Asbestos

23714-03-1 (ceiling tile/mastic)  
Non-Detectable

23714-04-1 (ceiling tile/mastic)  
Non-Detectable



**Former Federal Reserve Bldg. - Level 1**

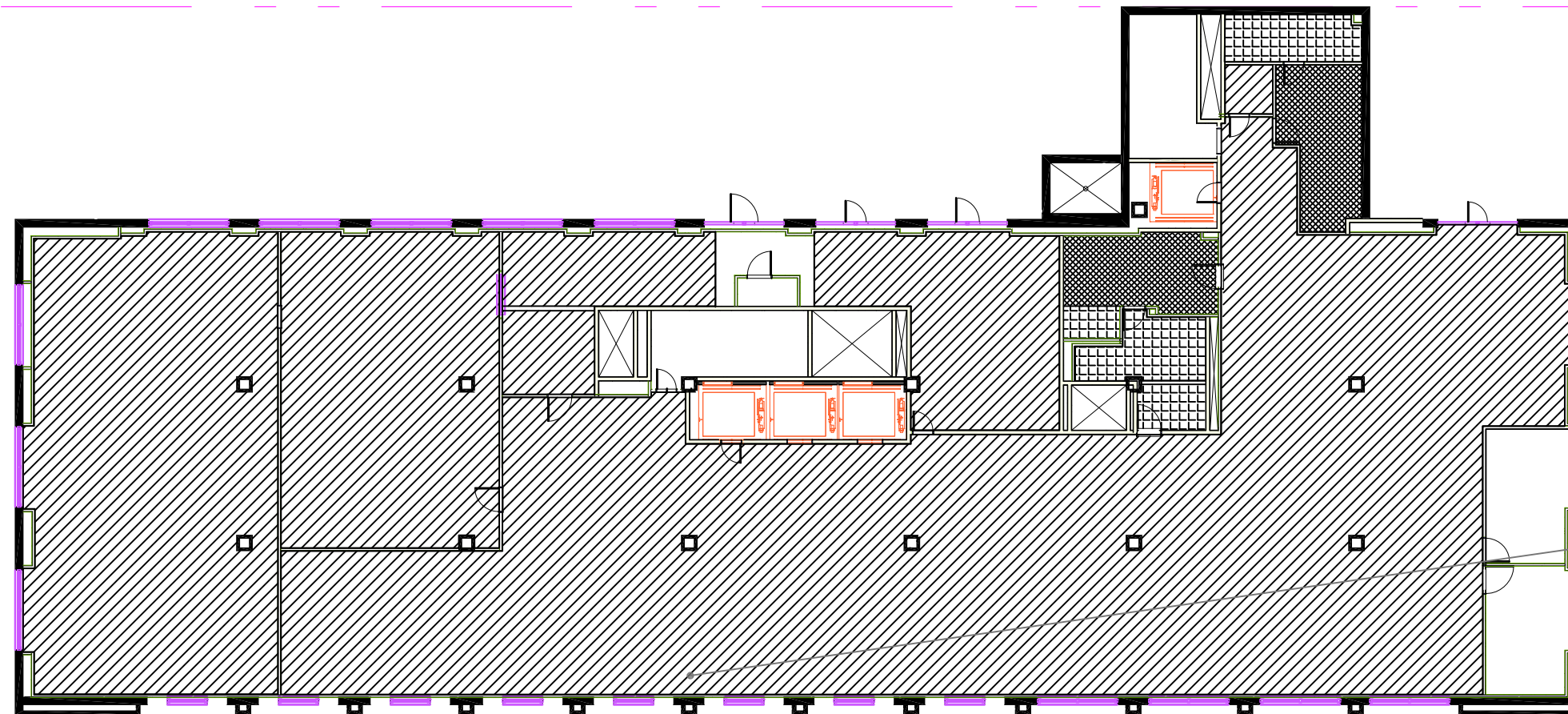
0 3 6 12 18 30 FT






**Migizi Group, Inc.**

17921 Bothell-Everett Hwy., Suite 102  
Bothell, Washington 98012  
(425) 398-2300  
(425) 398-2333 fax  
www.migizigroup.com

PROJECT: Former Federal Reserve Building Reuse Regulated Material Planning	
SHEET TITLE: Suspect Asbestos-Containing Building Materials/Sample Locations	
DESIGNER: DJH	JOB NO. P237-14
DRAWN BY: DJH	SCALE:
CHECKED BY: JDS	FIGURE: 3
DATE: 13MAR2014	FILE: Fig. 3 - Level 1



**LEGEND**

-  VINYL FLOOR TILE AND MASTIC
-  CERAMIC FLOOR TILE
-  CERAMIC FLOOR AND WALL TILE
- 23714-01-1 ASBESTOS SAMPLE LOCATION

**ESTIMATED SHEET QUANTITY**

- 9,720 SQ. FT. - VINYL FLOOR TILE AND MASTIC
- 670 SQ. FT. - CERAMIC FLOOR TILE
- 1,075 SQ. FT. - CERAMIC WALL TILE

23714-05-1 (fire proofing)  
2% Chrysotile Asbestos



**Former Federal Reserve Bldg. - Level 2**

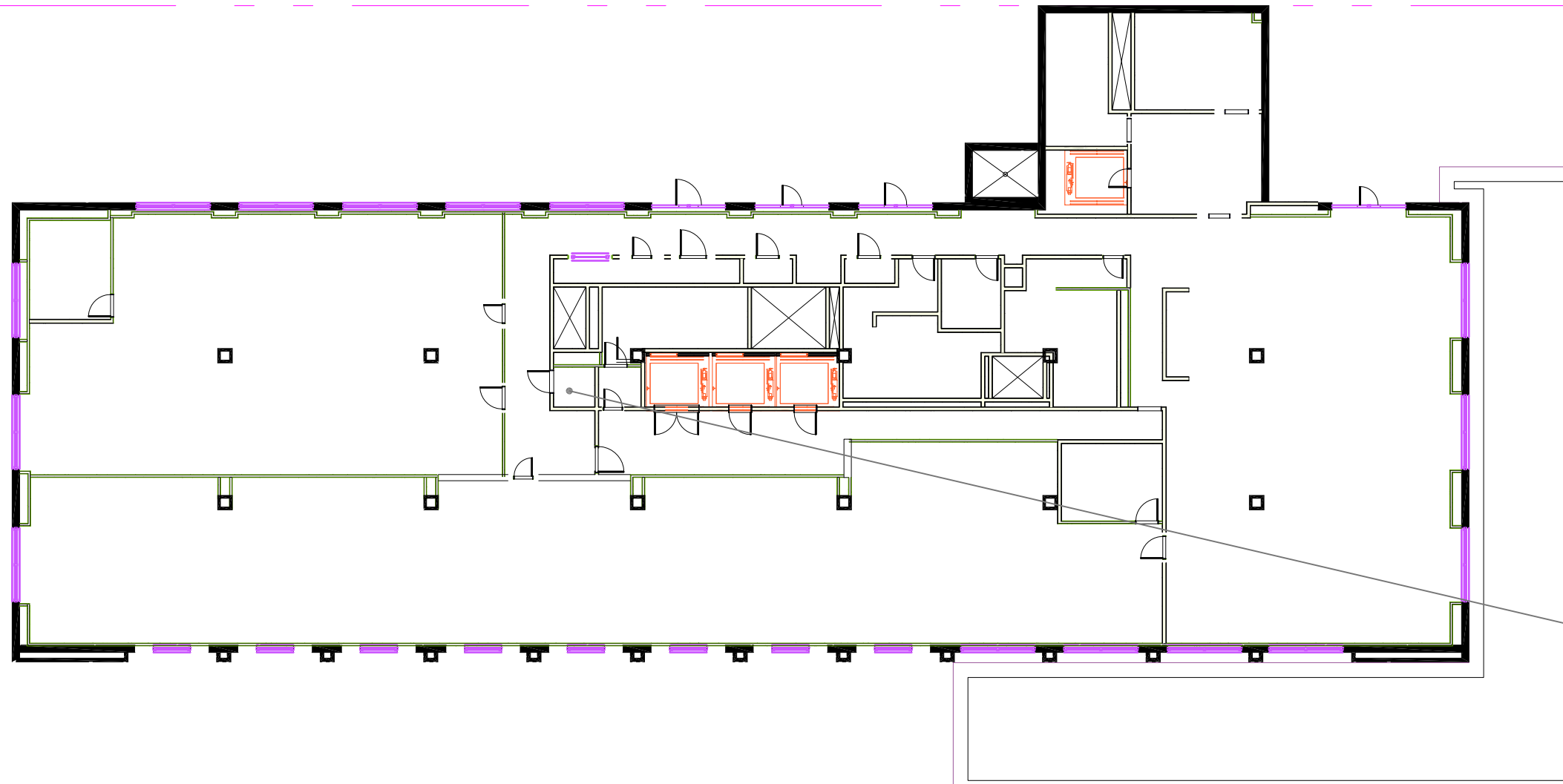
0 3 6 12 18 30 FT



Migizi Group, Inc.

17921 Bothell-Everett Hwy., Suite 102  
Bothell, Washington 98012  
(425) 398-2300  
(425) 398-2333 fax  
www.migizigroup.com

PROJECT: Former Federal Reserve Building Reuse Regulated Material Planning	
SHEET TITLE: Suspect Asbestos-Containing Building Materials	
DESIGNER: DJH	JOB NO. P237-14
DRAWN BY: DJH	SCALE:
CHECKED BY: JDS	FIGURE: 4
DATE: 13MAR2014	FILE: Fig. 4 - Level 2



**LEGEND**

23714-01-1 ASBESTOS SAMPLE LOCATION

**ESTIMATED SHEET QUANTITY**

NO SIGNIFICANT AND/OR LIKELY SUSPECT  
ASBESTOS-CONTAINING BUILDING MATERIALS  
IDENTIFIED ON LEVEL 3. EXCEPTION LIMITED TO  
STRUCTURAL FIREPROOFING.

SEE WRITTEN REPORT FOR MORE INFORMATION.

23714-05-2 (fire proofing)  
2% Chrysotile Asbestos



Former Federal Reserve Bldg. - Level 3

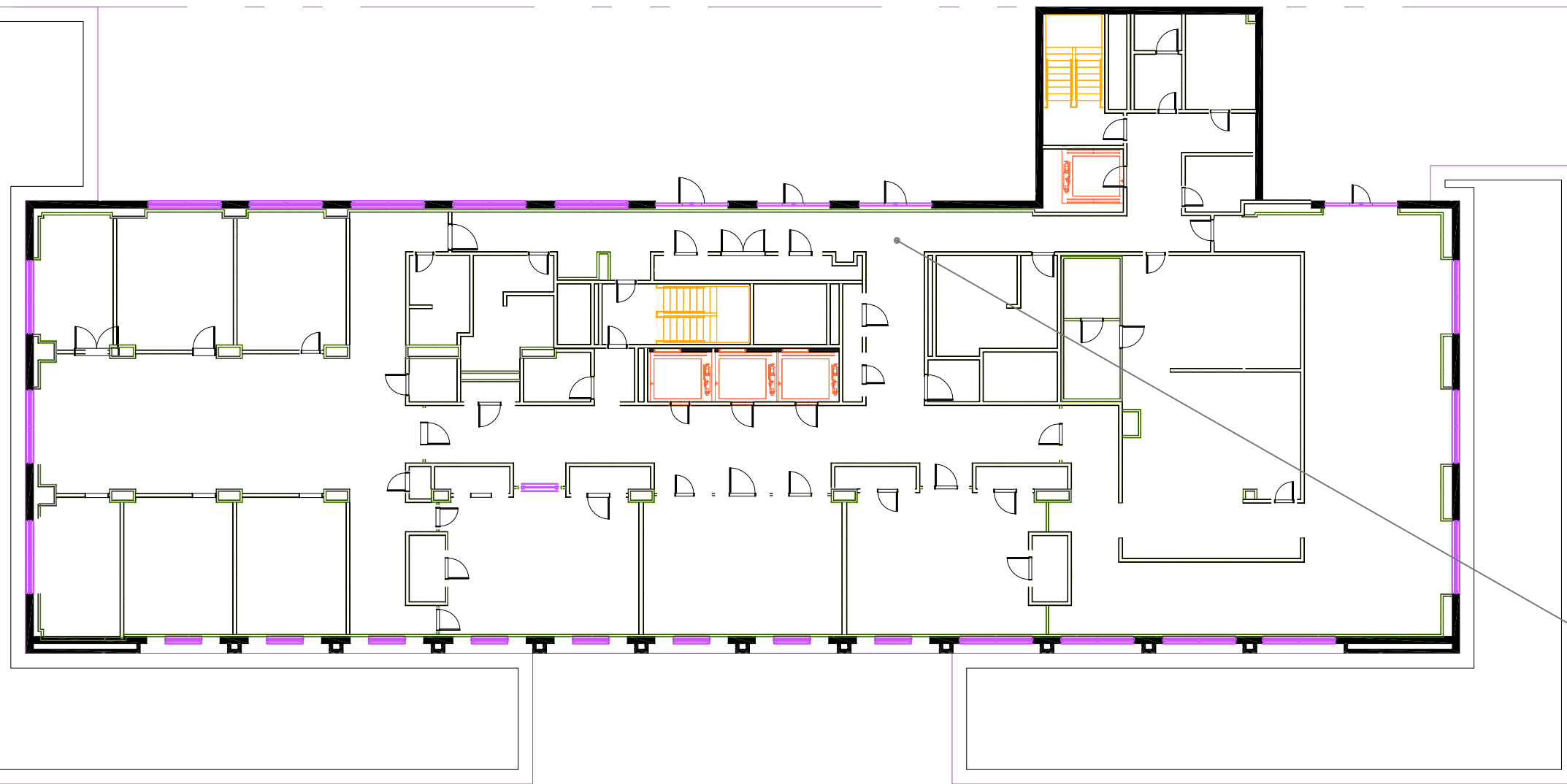
0 3 6 12 18 30 FT



Migizi Group, Inc.

17921 Bothell-Everett Hwy., Suite 102  
Bothell, Washington 98012  
(425) 398-2300  
(425) 398-2333 fax  
www.migizigroup.com

PROJECT: Former Federal Reserve Building Reuse Regulated Material Planning	
SHEET TITLE: Suspect Asbestos-Containing Building Materials/Sample Locations	
DESIGNER: DJH	JOB NO. P237-14
DRAWN BY: DJH	SCALE:
CHECKED BY: JDS	FIGURE: 5
DATE: 13MAR2014	FILE: Fig. 5 - Level 3



**LEGEND**

23714-01-1 ASBESTOS SAMPLE LOCATION

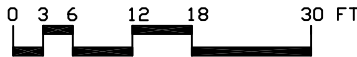
**ESTIMATED SHEET QUANTITY**

NO SIGNIFICANT AND/OR LIKELY SUSPECT  
ASBESTOS-CONTAINING BUILDING MATERIALS  
IDENTIFIED ON LEVEL 4.  
SEE WRITTEN REPORT FOR MORE INFORMATION.

23714-06-1 (fire proofing)  
Non-Detectable



**Former Federal Reserve Bldg. - Level 4**



**Migizi Group, Inc.**

17921 Bothell-Everett Hwy., Suite 102  
Bothell, Washington 98012  
(425) 398-2300  
(425) 398-2333 fax  
www.migizigroup.com

PROJECT: Former Federal Reserve Building Reuse Regulated Material Planning	
SHEET TITLE: Suspect Asbestos-Containing Building Materials/Sample Locations	
DESIGNER: DJH	JOB NO. P237-14
DRAWN BY: DJH	SCALE:
CHECKED BY: JDS	FIGURE: 6
DATE: 13MAR2014	FILE: Fig. 6 - Level 4

# SEATTLE ASBESTOS TEST

Lynnwood Laboratory: 19701 Scriber Lake Road, Suite 103,  
Lynnwood, WA 98036, Tel: 425.673.9850, Fax: 425.673.9810

Bellevue Laboratory: 12727 Northup Way, Suite 1, Bellevue,  
WA 98005, Tel: 425.861.1111, Fax: 425.861.1118

NVLAP Accreditation Lab Codes: Bellevue-200876, Lynnwood-200768

Seattle Laboratory: 4500 9th Ave. NE, Suite 300, Seattle, WA 98105,  
Tel: 206.633.1111, Fax: 206.633.4747

## ANALYTICAL LABORATORY REPORT PLM by Method EPA/600/R-93/116

Attn.: Mr. Doug Henry

Client: Migizi Group, Inc.

Address: 3227 178th St. SE, Bothell, WA 98012

Job#: P237-14

Batch#: 201410539

Date Received: 3/10/2014

Samples Rec'd: 9

Date Analyzed: 3/12/2014

Samples Analyzed: 9

Project Loc.: Former Federal Reserve Bldg.,  
Seattle, WA

Analyzed by: Yuf Yang

Reviewed by: Steve (Fanyao) Zhang, President

Lab ID	Client Sample ID	Layer	Description	%	Asbestos Fibers	Non-fibrous Components	%	Non-asbestos Fibers
1	23714-01-1	1	Gray tile		None detected	Vinyl/binder, Mineral grains	3	Cellulose
		2	Yellow mastic		None detected	Mastic/binder	2	Cellulose
2	23714-02-1	1	Gray tile		None detected	Vinyl/binder, Mineral grains	4	Cellulose
		2	Yellow mastic		None detected	Mastic/binder	2	Cellulose
3	23714-03-1	1	Gray fibrous material with paint		None detected	Paint, Filler, Glass beads	69	Cellulose, Glass fibers
		2	Brown mastic		None detected	Mastic/binder	2	Cellulose
4	23714-04-1	1	Gray fibrous material with paint		None detected	Paint, Filler, Glass beads	60	Cellulose, Glass fibers
		2	Brown mastic		None detected	Mastic/binder	3	Cellulose
5	23714-05-1	1	White/tan brittle material with paint and vermiculite	2	Chrysotile	Filler, Binder, Paint, Vermiculite	7	Cellulose
6	23714-05-2	1	White/tan brittle material with paint and vermiculite	2	Chrysotile	Filler, Binder, Paint, Vermiculite	5	Cellulose
7	23714-05-3	1	White/tan brittle material with paint and vermiculite	2	Chrysotile	Filler, Binder, Paint, Vermiculite	4	Cellulose
		2	Gray fibrous material		None detected	Filler, Glass beads	62	Cellulose, Glass fibers
8	23714-05-4	1	White/tan brittle material with paint and vermiculite	2	Chrysotile	Filler, Binder, Paint, Vermiculite	4	Cellulose
9	23714-06-1	1	White powdery material with fibrous material		None detected	Filler, Fine particles	18	Cellulose

**SEATTLE ASBESTOS TEST, LLC**

Lynnwood Lab: 19711 Scriber Lake Road, Suite D, Lynnwood, WA 98036, T:425.673.9850, F:425.673.9810  
 Bellevue Lab: 12727 Northup Way, Suite 1, Bellevue, WA 98005, T:425.861.1111, F:425.861.1118  
 Email: admin@seattleasbestostest.com, website: www.seattleasbestostest.com  
 NVLAP Lab Code: Lynnwood: 200768-0, Bellevue: 200876-0

**Analyzing Quality**Batch#: 201410539**CHAIN OF CUSTODY****CLIENT INFORMATION**

Company: Migizi Group, Inc.

Phone: 425-398-2300 Fax: 425-398-2333

Address: 17921 Bothell-Everett Hwy., Suite 102, Bothell, WA 98012

Email: dhenry@migizigroup.com




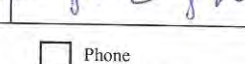
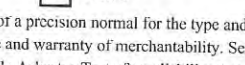
**METHOD (SELECT ONE)**
☒ Bulk Asbestos (PLM) ☐ PointCount400 ☐ PointCount1000 ☐ Pt. Count Gravimetric ☐ Other (Specify)
**PROJECT INFORMATION**# of Samples: 9 Job#: P237-14Project Location: Former Federal Reserve Bldg., Seattle, WA**PROJECT MANAGERS (SELECT ONE OR MORE)**

	Name	Phone	Email
<input checked="" type="checkbox"/>	Doug Henry	425-398-2300	dhenry@migizigroup.com
<input type="checkbox"/>			
<input type="checkbox"/>			
<input type="checkbox"/>			
<input type="checkbox"/>			

	Name	Phone	Email
<input type="checkbox"/>			
<input type="checkbox"/>			
<input type="checkbox"/>			
<input type="checkbox"/>			
<input type="checkbox"/>			

**TURNAROUND TIME**
☐ 1 Hour ☐ 2 Hours ☐ Same Day (4 to 6 hrs) ☐ 1 Day ☒ Number of Days: 5 day

SEQ#	CLIENT SAMPLE #	SAMPLE DESCRIPTION	GROUP	COMPOSITE	PT. COUNT
1	23714-01-1	Vinyl Floor Tile & Adhesive			
2	23714-02-1	Vinyl Floor Tile & Adhesive			
3	23714-03-1	Acoustical Ceiling Tile & Adhesive			
4	23714-04-1	Acoustical Ceiling Tile & Adhesive			
5	23714-05-1	Structural Fire Proofing			
6	23714-05-2	Structural Fire Proofing			
7	23714-05-3	Structural Fire Proofing			
8	23714-05-4	Structural Fire Proofing			
9	23714-06-1	Structural Fire Proofing			
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

	Print Name	Signature	Company Name	Date	Time
Sampled by	Doug Henry		Migizi Group, Inc.	07MAR14	07:00-17:00
Relinquished by	Doug Henry		Migizi Group, Inc.	10MAR14	16:50
Delivered by	Doug Henry		Migizi Group, Inc.	10MAR14	
Received by	David Henry		Seattle Asbestos Test, LLC	3/10/14	1650
Analyzed by	Yun Yang		Seattle Asbestos Test, LLC	3/12/14	1159
Reported by			Seattle Asbestos Test, LLC		

**PREFERRED REPORTING METHOD**
☐ Phone ☐ Fax ☒ Email ☐ Postal Mail

Seattle Asbestos Test warrants the test results to be of a precision normal for the type and methodology employed for each sample submitted and disclaims any other warrants, expressed or implied, including warranty of fitness for a particular purpose and warranty of merchantability. Seattle Asbestos Test accepts no legal responsibility for the purpose for which the client uses the test results. By signing on this form, the clients agree to relieve Seattle Asbestos Test of any liability that may arise from the test results. It is the client's responsibility to make sure the samples are appropriately taken according to federal and local regulations. Invoices paid late may be charged of interest, and invoices go to collection may be charged 17% to 25% of collection fee. NSF checks will be charged of \$50.



**Lab/Cor, Inc.**

7619 6th Ave NW  
Seattle, WA 98117

## Analysis Report Cover

### Final Report

*A Professional Service Corporation in the Northwest*

Phone: (206) 781-0155

Fax: (206) 789-8424

http://www.labcor.net

**Job Number:** 140213      **SEA**  
**Client:** Migizi Group  
**Address:** 17921 Bothell-Everett Hwy  
Suite 102  
Bothell, WA 98012  
**Project Name:** Former Federal Reserve Bldg.  
**Project No.:** P237-14  
**PO Number:** P237-14  
**Sub Project:**  
**Reference No.:**

**Report Number:** 140213R01

**Report Date:** 3/14/2014

Enclosed please find results for samples submitted to our laboratory. A list of samples and analyses follows:

Lab/Cor Sample #	Client Sample # and Description	Analysis	Analysis Notes	Date Received:
140213 - S1	23714-MV-1 - Ground Floor - Cash Area West	ASTM D5755-03 - Microvac		3/11/2014
140213 - S2	23714-MV-2 - Ground Floor - Cash Area East	ASTM D5755-03 - Microvac		3/11/2014
140213 - S3	23714-MV-4 - Ground Floor - Security/Control Office	ASTM D5755-03 - Microvac		3/11/2014

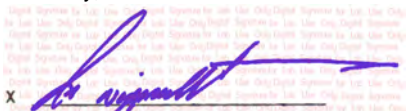
ASTM D5755-03 - Microvac Preparation and analysis of the above samples was conducted in accordance with the ASTM # D-5755-03 for the identification of asbestos in dust. Briefly, the samples were sampled by using a microvac technique onto 0.45 µm pore size mixed cellulose ester (MCE) filters. Sample cassettes were rinsed in distilled, particle-free water, sonicated lightly to homogenize and removed particulates. Aliquots were taken and filtered onto 0.22 µm pore size mixed cellulose ester filters, then air-dried. The samples were carbon coated at high vacuum with a thin layer of carbon, placed on 200 mesh copper grids and allowed to dissolve in N,N-Dimethylformamide / Acetone baths until cleared of filter debris.

Analysis was performed using a transmission electron microscope equipped with an EDS X ray analyzer. The samples were analyzed at an approximate screen magnification between 15,000 - 20,000x, with an accelerating voltage of 100 KV. The sizing of grid openings was performed using a calibrated digital imaging system at low magnification.

**Disclaimer** The results reported relate only to the samples tested or analyzed; the laboratory is not responsible for data collected by personnel who are not affiliated with the laboratory. Results reported in both structures/cm3 and structures/mm2 are dependent on the sample volume and area. These parameters are measured and recorded by non-laboratory personnel and are not covered by the laboratory's accreditation. Interpretation of these results is the sole responsibility of the client.

If further clarification of these results is needed, please call us. Thank you for allowing the staff at Lab/Cor, Inc. the opportunity to provide you with the analytical services.

Sincerely,



**Derk Wipprecht**  
**Technical Manager**

## ASTM D5755-03 - Microvac Summary Data

Job Number: 140213      SEA      Report Number: 140213R01  
Client: Migizi Group      Date Received: 3/11/2014  
Project Name: Former Federal Reserve Bldg.

Lab/Cor Sample No.: S1				Sample Area/Mass/Volume (cm <sup>2</sup> ) : 100			
Client Sample No.: 23714-MV-1				Lab Filter Area (mm <sup>2</sup> ) : 193			
Description: Ground Floor - Cash Area West				Grid Openings Analyzed : 10			
Filter Fraction: 1		Aliquot Dilution: 0.005		Average Grid Opening Area : 0.0105			
Residual Ash Vol: 20 ml		Final Dilution: 0.005		Area Analyzed (mm <sup>2</sup> ) : 0.105			
Begin Volume: 20 ml				Analytical Sens. (struc/cm <sup>2</sup> ) : 3676.19			
Volume Taken: 0.1 ml				Detection Limit. (struc/cm <sup>2</sup> ) : 10991.81			
Analyst(s)	Analysis Date	Microscope	Magnification				
DW	3/14/2014	Philips 410	18000				
Structure Type		Concentration (struc/cm <sup>2</sup> )	95% Confidence Interval (struc/cm <sup>2</sup> )	Structure Count <sup>1</sup> Prim/Total			
ASTM Asbestos >=0.5µm - <5.0µm		< 3676.19	0 - 13561.467 - Poisson	0			
ASTM Asbestos >=5.0µm		< 3676.19	0 - 13561.467 - Poisson	0			
ASTM Libby-Other >0.5µm		< 3676.19	0 - 13561.467 - Poisson	0			
ASTM Total Asbestos >=0.5µm		< 3676.19	0 - 13561.467 - Poisson	0			

Lab/Cor Sample No.: S2				Sample Area/Mass/Volume (cm <sup>2</sup> ) : 100			
Client Sample No.: 23714-MV-2				Lab Filter Area (mm <sup>2</sup> ) : 193			
Description: Ground Floor - Cash Area East				Grid Openings Analyzed : 10			
Filter Fraction: 1		Aliquot Dilution: 0.005		Average Grid Opening Area : 0.0105			
Residual Ash Vol: 20 ml		Final Dilution: 0.005		Area Analyzed (mm <sup>2</sup> ) : 0.105			
Begin Volume: 20 ml				Analytical Sens. (struc/cm <sup>2</sup> ) : 3676.19			
Volume Taken: 0.1 ml				Detection Limit. (struc/cm <sup>2</sup> ) : 10991.81			
Analyst(s)	Analysis Date	Microscope	Magnification				
DW	3/14/2014	Philips 410	18000				
Structure Type		Concentration (struc/cm <sup>2</sup> )	95% Confidence Interval (struc/cm <sup>2</sup> )	Structure Count <sup>1</sup> Prim/Total			
ASTM Asbestos >=0.5µm - <5.0µm		< 3676.19	0 - 13561.467 - Poisson	0			
ASTM Asbestos >=5.0µm		< 3676.19	0 - 13561.467 - Poisson	0			
ASTM Libby-Other >0.5µm		< 3676.19	0 - 13561.467 - Poisson	0			
ASTM Total Asbestos >=0.5µm		< 3676.19	0 - 13561.467 - Poisson	0			

\* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struc count] \* [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3

## ASTM D5755-03 - Microvac Summary Data

**Job Number:** 140213      **SEA**  
**Client:** Migizi Group  
**Project Name:** Former Federal Reserve Bldg.

**Report Number:** 140213R01  
**Date Received:** 3/11/2014

**Lab/Cor Sample No.:** S3

**Client Sample No.:** 23714-MV-4

**Description:** Ground Floor - Security/Control Office

**Filter Fraction:** 1

**Aliquot Dilution:** 0.05

**Residual Ash Vol:** 20 ml

**Final Dilution:** 0.05

**Begin Volume:** 20 ml

**Volume Taken:** 1 ml

**Sample Area/Mass/Volume (cm<sup>2</sup>) :** 100

**Lab Filter Area (mm<sup>2</sup>) :** 193

**Grid Openings Analyzed :** 10

**Average Grid Opening Area :** 0.0105

**Area Analyzed (mm<sup>2</sup>) :** 0.105

**Analytical Sens. (struc/cm<sup>2</sup>) :** 367.619

**Detection Limit. (struc/cm<sup>2</sup>) :** 1099.181

**Analyst(s)**      **Analysis Date**      **Microscope**      **Magnification**  
DW                      3/14/2014                      Philips 410                      18000

Structure Type	Concentration (struc/cm <sup>2</sup> )	95% Confidence Interval (struc/cm <sup>2</sup> )	Structure Count <sup>1</sup> Prim/Total
ASTM Asbestos >=0.5µm - <5.0µm	< 367.619	0 - 1356.147 - Poisson	0
ASTM Asbestos >=5.0µm	< 367.619	0 - 1356.147 - Poisson	0
ASTM Libby-Other >0.5µm	< 367.619	0 - 1356.147 - Poisson	0
ASTM Total Asbestos >=0.5µm	< 367.619	0 - 1356.147 - Poisson	0

  
X  
**Derk Wipprecht**  
Technical Manager

\* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struc count] \* [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3

**ASTM D5755-03 - Microvac Raw Data**

**Job Number:** 140213      **SEA**  
**Client:** Migizi Group  
**Project Name:** Former Federal Reserve Bldg.  
**Project No.:** P237-14

**Ref.** D5755-03

**Report Number:** 140213R01  
**Date Received:** 3/11/2014

**Lab/Cor Sample No:** S1

**Client Sample No:** 23714-MV-1

**Description:** Ground Floor - Cash Area West

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G4	1	B31				NSD							
G4	2	B32				NSD							
G4	3	C31				NSD							
G4	4	C32				NSD							
G4	5	E31				NSD							
G4	6	E32				NSD							
G4	7	F31				NSD							
G5	8	E31				NSD							
G5	9	E32				NSD							
G5	10	F31				NSD							

**Lab/Cor Sample No:** S2

**Client Sample No:** 23714-MV-2

**Description:** Ground Floor - Cash Area East

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count	Categories
G4	1	C41	NAM	1		Fiber	4	0.75	5.3	Non Asbestos Mineral	Mg, Si, K, Ca, Fe	Subcalcic Amphibole		
						ItemType	ItemNum				Confirmed	Comment		
						Brightfield Spectra	P28518BF P28518SP							
G4	2	C42				NSD								
G4	3	E41				NSD								
G4	4	E42				NSD								
G4	5	F41				NSD								
G4	6	F42				NSD								
G4	7	G41				NSD								
G5	8	C41				NSD								
G5	9	C42	NAM	2		Fiber	4	0.65	6.2	Non Asbestos Mineral	Mg, Si, Ca, Fe	Subcalcic Amphibole		
						ItemType	ItemNum				Confirmed	Comment		
						Brightfield	P28519BF							
G5	10	E41	NAM	3		Matrix 5-0	6	6	1	Non Asbestos Mineral				
						ItemType	ItemNum				Confirmed	Comment		
						Brightfield	P28520BF							

**ASTM D5755-03 - Microvac Raw Data**

**Job Number:** 140213      **SEA**  
**Client:** Migizi Group  
**Project Name:** Former Federal Reserve Bldg.  
**Project No.:** P237-14

**Ref.** D5755-03

**Report Number:** 140213R01  
**Date Received:** 3/11/2014

**Lab/Cor Sample No:** S3

**Client Sample No:** 23714-MV-4

**Description:** Ground Floor - Security/Control Office

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G4	1	C41				NSD							
G4	2	C42				NSD							
G4	3	E41				NSD							
G4	4	E42				NSD							
G4	5	F41				NSD							
G4	6	F42				NSD							
G4	7	G41				NSD							
G5	8	F41				NSD							
G5	9	F42				NSD							
G5	10	G41				NSD							

**Count Categories**

ASTM\_>=5.0    ASTM Asbestos >=5.0µm    ASTM\_0.5-5.0    ASTM Asbestos >=0.5µm - <5.0µm    ASTM\_Total    ASTM Total Asbestos >=0.5µm  
ASTMD\_Other    ASTM Libby-Other >0.5µm

**Reviewed by:**



**Derk Wipprecht**  
Technical Manager

# TEM / PCM / PLM Chain of Custody Record

140213

## Lab/Cor, Inc

7619 6<sup>th</sup> Ave NW  
Seattle, WA 98117

Office (206) 781-0155  
Fax (206) 789-8424

mail@labcor.net  
www.labcor.net

Client: Migizi Group, Inc.

Address: 17921 Bothell-Everett Hwy., Suite 102

City, State, Zip: Bothell, WA 98012

Contact: Doug Henry

Phone: 425-398-2300 Fax: 425-398-2333

Email: dhenry@migizigroup.com

Other Info: ASTM D5755-09: Microvacuum/TEM

## Analytical Protocol:

☐ AHERA  
☐ Modified EPA II  
☐ EPA II (Yamate)  
☐ NIOSH 7402 (TEM)  
☐ NIOSH 7400 (PCM)  
☒ ASTM Dust  
☐ EPA 100.1/ 100.2  
☐ ISO: 10312  
☐ Bulk PLM  
☐ Bulk TEM

☐ Quantitative  
☐ Semi-Quant  
☐ Qualitative

## Turnaround Time:

☐ 7 days  
☒ 5 days  
☐ 3 days  
☐ 48 hours  
☐ 24 hours\*  
☐ 6 hr RUSH\*  
☐ Redeposit

Project Name: Former Federal Reserve Bldg.

Project Number: P237-14

P.O. Number: P237-14

Sample Number	Sample Description	Sample Date	Sample Time			Flow Rate (lpm)			Total Volume	IWA	OWA	Blank
			On	Off	Total	Start	End	Avg				
23714-MV-1	Ground Floor - Cash Area West	07MAR14							100 cm2			
23714-MV-2	Ground Floor - Cash Area East	07MAR14							100 cm2			
23714-MV-4	Ground Floor - Security/Control Office	07MAR14							100 cm2			

## Internal Lab Use Only:

Prelim Released:

Final Results Released:

Hardcopy / Invoice Mailed:

By: ☐ Fax ☐ Phone ☐ E-mail ☐ Verbal

By: ☐ Fax ☐ Phone ☐ E-mail

Reviewed By:

By signing below you are agreeing to comply with Lab/Cor's Requests, Tenders and Contracts.

\* Call ahead for TATs of 24hrs or less

Relinquished by:  
Doug Henry (via FedEx)

Received by:

Date:  
10MAR2014

Time:  
~16:00

# Certificate of Completion

This is to certify that

**Doug J. Henry**

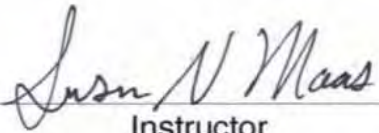
has satisfactorily completed  
4 hours of refresher training as an

**Asbestos Building Inspector**

to comply with the training requirements of  
TSCA Title II / 40 CFR 763 (AHERA)

**145014**

Certificate Number

  
Instructor

EPA Provider Cert. Number: 1085

**Dec 18 - Nov 18, 2013**

Date(s) of Training

Exam Score: NA

Expiration Date: Nov 18, 2014

# Certificate of Completion

This is to certify that

**Jason D. Souza**

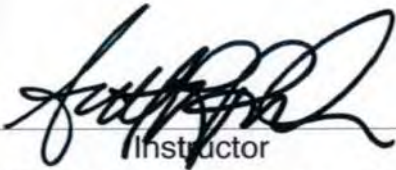
has satisfactorily completed  
4 hours of refresher training as an

**Asbestos Building Inspector**

to comply with the training requirements of  
TSCA Title II / 40 CFR 763 (AHERA)

**144544**

Certificate Number



Instructor

EPA Provider Cert. Number: 1085

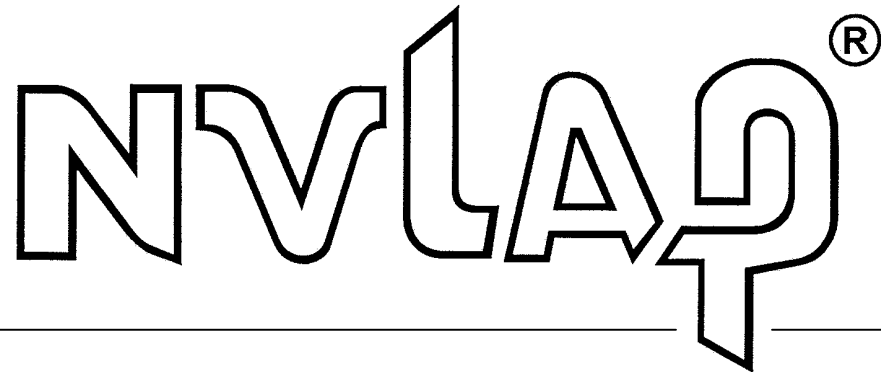
Nov 13, 2013

Date(s) of Training

Exam Score: NA

Expiration Date: Nov 13, 2014

United States Department of Commerce  
National Institute of Standards and Technology



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**Certificate of Accreditation to ISO/IEC 17025:2005**

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NVLAP LAB CODE: 200768-0

**Seattle Asbestos Test, LLC**  
Lynnwood, WA

*is accredited by the National Voluntary Laboratory Accreditation Program for specific services,  
listed on the Scope of Accreditation, for:*

**BULK ASBESTOS FIBER ANALYSIS**

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005.  
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality  
management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).*

2013-10-01 through 2014-09-30

*Effective dates*



A handwritten signature in black ink, appearing to read "W. R. M. L.", positioned above a horizontal line.

*For the National Institute of Standards and Technology*

United States Department of Commerce  
National Institute of Standards and Technology



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**Certificate of Accreditation to ISO/IEC 17025:2005**

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NVLAP LAB CODE: 101920-0

**Lab/Cor, Inc.**  
Seattle, WA

*is accredited by the National Voluntary Laboratory Accreditation Program for specific services,  
listed on the Scope of Accreditation, for:*

**AIRBORNE ASBESTOS FIBER ANALYSIS**

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005.  
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality  
management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).*

2013-10-01 through 2014-09-30

*Effective dates*



A handwritten signature in black ink, appearing to read "William R. Mallory".

*For the National Institute of Standards and Technology*



**National Voluntary  
Laboratory Accreditation Program**



**SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005**

**Lab/Cor, Inc.**  
7619 Sixth Avenue, NW  
Seattle, WA 98117  
Mr. Derk Wipprecht  
Phone: 206-781-0155 Fax: 206-789-8424  
E-Mail: [dwipprecht@labcor.net](mailto:dwipprecht@labcor.net)  
URL: <http://www.labcor.net>

**AIRBORNE ASBESTOS FIBER ANALYSIS (TEM)**

**NVLAP LAB CODE 101920-0**

<i>NVLAP Code</i>	<i>Designation / Description</i>
18/A02	U.S. EPA's "Interim Transmission Electron Microscopy Analytical Methods-Mandatory and Nonmandatory-and Mandatory Section to Determine Completion of Response Actions" as found in 40 CFR, Part 763, Subpart E, Appendix A.

2013-10-01 through 2014-09-30

*Effective dates*

*For the National Institute of Standards and Technology*